



## CLEAN VERSION OF AMENDED SPECIFICATION PARAGRAPHS

### METHOD OF CHARACTERIZING A DELAY LOCKED LOOP

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#### **The paragraph beginning at page 12, line 1:**

Between times T0 and T2, both of the B\_ACT-0\* and EN\_PSA-0 signals are LOW causing both inputs of NOR gate 410 to go LOW which forces a HIGH to the output of NOR gate 410 at line 406-0. This means the FREEZE-0 signal is HIGH forcing the output of NOR gate 420 at line 422 LOW. When one of the inputs, (e.g., on line 422) of NAND gate 424 is LOW, its output on line 430 is forced HIGH. Thus, between times T0 and T2, the STOP\_PD signal is activated HIGH. The activated STOP\_PD disables the shifting operation of the DLL, such as DLL 201 of Figure 2, during the ACTIVE mode.

#### **The paragraph beginning at page 12, line 9:**

In Figure 4, the STOP\_PD is HIGH when one of the FREEZE 0-3 signals is HIGH. However, one of the FREEZE 0-3 \* is returned LOW a predetermined time after one of the corresponding EN\_PSA 0-3 signals is activated HIGH. For example, in Figure 5, between times T0 and T2, the FREEZE-0 is HIGH. At time T2, the EN\_PSA-0 signal is activated HIGH. After a predetermined delay time caused by delay 412, indicated by D0 in Figure 5, the input of NOR gate 410-0 connected to delay 412 will be HIGH. This forces a LOW to the signal at the output of NOR gate 410-0 or the FREEZE-0 signal. If BANK-0 is the only bank that is selected in the ACTIVE mode, the STOP\_PD signal would be LOW or deactivated after time T2+D0 because the FREEZE-0 signal is LOW after time T2 + D0. However, after time T2+D0, the B\_ACT-1\* signal is LOW indicating BANK-1 is still selected. Therefore, the STOP\_PD signal is still forced HIGH. The STOP\_PD signal is deactivated when all of the banks are not selected in the ACTIVE mode and after a predetermined time the EN\_PSA signal of the last bank is activated.

#### **The paragraph beginning at page 14, line 18:**

It is understood that in the test mode, the ACTIVE, READ and REFRESH modes can be simulated to determine the effect of these modes on the DLL. The simulation can be achieved by giving the right combinations of input signals on input lines such as lines 114 and 108 of memory device 100 shown in Figure 1. Because the TM\_CKE signal can be controlled during

Serial No.: 09/874,894



*Contd 93*

the test mode to activate or deactivate the STOP\_PD signal during the test mode, the effect of the simulated ACTIVE, READ or REFRESH mode on the DLL during the test can also be monitored. For example, during a the test mode the TM\_CKE signal can be activated or deactivated by toggling its signal levels between HIGH and LOW to activate or deactivate the STOP\_PD signal. One way to observe the effect of the simulated ACTIVE, READ or REFRESH mode on the DLL is to record and compare the signal relationship between the XCLK signal and the DQ signal before and after the TM\_CKE or the STOP\_PD signal is activated during the test mode.

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